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NOTICE OF ALLOWANCE AND FEE(S) DUE

5514 7590 03/09/2009
FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

| | |
|---------------------|--------------|
| EXAMINER | |
| KOVALICK, VINCENT E | |
| ART UNIT | PAPER NUMBER |

2629
DATE MAILED: 03/09/2009

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/790,738 | 03/03/2004 | Somei Kawasaki | 03500.017938. | 2877 |

TITLE OF INVENTION: DRIVE CIRCUIT, DISPLAY APPARATUS USING DRIVE CIRCUIT, AND EVALUATION METHOD OF DRIVE CIRCUIT

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | NO | \$1510 | \$300 | \$0 | \$1810 | 06/09/2009 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
 or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

5514 7590 03/09/2009

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

| |
|--------------------|
| (Depositor's name) |
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10790.738 03/03/2004

Somei Kawasaki

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| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---------------------|----------|----------------|
| KOVALICK, VINCENT E | 2629 | 345-211000 |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB-122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB-47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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| | | | ART UNIT | PAPER NUMBER |

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DATE MAILED: 03/09/2009

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 932 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 932 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/790,738

Examiner

VINCE E. KOVALICK

Applicant(s)

KAWASAKI ET AL.

Art Unit

2629

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's amendment dated 2/19/2009.
2. ☒ The allowed claim(s) is/are 30-37 (re-numbered 1-8).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Applicant's Amendment dated February 19, 2009 in response to USPTO Office Action dated November 19, 2008.

The cancellation of claims 1-29 and the amendments to claims 30, 32-35 and 37 are sufficient to place the application in a condition for allowance as set forth hereinbelow.

Allowable Subject Matter

2. Claims 30-37 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Relative to claim 30, the major difference between the teachings of the prior art of record (USP 6,486,860, Eschbach; USP 4,858,022, Suzuki and Pub. No. 2003/0058228, Katoh et al.) and that of the instant invention is that said prior art does not teach a drive circuit comprising: a plurality of current signal generation circuits for outputting a current signal to each of a plurality of display units; a current signal output line to which outputs of said plurality of current signal generation circuits are commonly connected; a control circuit for controlling each of said plurality of current signal generation circuits to be a current signal output state capable of evaluating an output of one of said plurality of current signal generation circuits; a correction value output circuit for evaluating the output of the one of said plurality of current signal generation circuits on a basis of the current values output through said current signal output line to output a correction value according to an evaluation result; and a correction circuit for correcting an image signal supplied to said plurality of current signal generation circuits by means of the correction value, wherein said control circuit supplies a predetermined signal to the one of said

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plurality of current signal generation circuits, and supplies a signal different from the predetermined signal to the other current signal generation circuits.

Relative to claim 33, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art does not teach a drive circuit comprising: a plurality of current signal generation circuits for outputting a current signal to each of a plurality of display units; a current signal output line to which outputs of said plurality of current signal generation circuits are commonly connected; a control circuit for controlling each of said plurality of current signal generation circuits to be a current signal output state capable of evaluating an output of one of said plurality of current signal generation circuits; a correction value output circuit for evaluating the output of the one of said plurality of current signal generation circuits on a basis of the current values output through said current signal output line to output a correction value according to an evaluation result; and a correction circuit for correcting an image signal supplied to said plurality of current signal generation circuits by means of the correction value; and a plurality of switches for controlling connection relations between said plurality of current signal generation circuits and said current signal output line, said plurality of switches being controlled by a common control signal.

Relative to claim 34, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art does not teach a drive circuit comprising: a plurality of current signal generation circuits for outputting a current signal to each of a plurality of display units; a current signal output line to which outputs of said plurality of current signal generation circuits are commonly connected; a control circuit for controlling each of said plurality of current signal generation circuits to be a current signal output state capable of evaluating an output of one of said plurality of current signal generation circuits; a correction value output circuit for evaluating the output of the one of said plurality of current signal generation circuits on a basis of the current values output through said current signal output line to output a correction value

according to an evaluation result; and a correction circuit for correcting an image signal supplied to said plurality of current signal generation circuits by means of the correction value; and a plurality of switches for severally controlling connection relations between said plurality of current signal generation circuits and said output units, said plurality of switches being controlled by a common control signal.

Relative to claim 35, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art does not teach a drive circuit comprising: a plurality of current signal generation circuits for outputting a current signal to each of a plurality of display units; a current signal output line to which outputs of said plurality of current signal generation circuits are commonly connected; a control circuit for controlling each of said plurality of current signal generation circuits to be a current signal output state capable of evaluating an output of one of said plurality of current signal generation circuits; a correction value output circuit for evaluating the output of the one of said plurality of current signal generation circuits on a basis of the current values output through said current signal output line to output a correction value according to an evaluation result; and a correction circuit for correcting an image signal supplied to said plurality of current signal generation circuits by means of the correction value; wherein each of said plurality of current signal generation circuits includes a circuit for outputting a current signal having a squared value of a value of an input signal, and said correction value output circuit outputs a correction value obtained by calculating a square root of a ratio of an output evaluation value of said signal generation circuits to a reference value.

Relative to claim 37, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art does not teach an evaluation method of a drive circuit including a plurality of current signal generation circuits for outputting a current signal to each of a plurality of display units, comprising steps of: connecting outputs of the plurality of current signal generation circuits to a

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common current signal output line; controlling the plurality of current signal generation circuits to a current signal output state in which an output of one of the plurality of current signal generation circuits can be evaluated; evaluating an output of the one of the plurality of current signal generation circuits on a basis of the current values output through the current single output line and outputting a correction value according to the evaluation result; and correcting an image signal supplied to the plurality of current signal generation circuits by the correction value, wherein the controlling step includes a step of supplying a predetermined signal to the one of the plurality of current signal generation circuits, and a step of supplying a signal different from the predetermined signal to the other current signal generation circuits.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Applicant's Remarks

4. The amendments to claims 30, 32-35 and 37 and the merit of applicant's remarks have been considered in the allowance of this case as set forth in item 3 hereinabove.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

| | | |
|------------------|-----------------|---------------|
| U. S. Patent No. | 5,296,696 | Uno |
| Pub. No. | US 2002/0092969 | Iodice et al. |

To Respond

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINCE E. KOVALICK whose telephone number is (571)272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629

/Vincent E Kovalick/
Examiner, Art Unit 2629
March 3, 2009

